What is Claimed is:

1. A process for preparing oligonucleotide probe using codon scanning algorithm which comprises the steps of:

(i) selecting a mutated codon to be interrogated; and,

(ii) preparing a probe such that the interrogated mutated codon is located at the center-most position of the oligonucleotide probe consisting of 7 nucleotides or more, rest of sequences are remained same as those of normal individuals and amine group is linked to 3' terminus of the probe.

2. The process for preparing oligonucleotide probe of claim 1, wherein one set of 4 probes are designed in a way that each probe has A, G, T, or C at the position of first nucleotide of the interrogated codon and rest 2 nucleotides of the codon are remained same as those of normal individuals, the other set of 4 probes are designed in a way that each probe has A, G, T, or C at the position of second nucleotide of the said interrogated codon and rest 2 nucleotides of the codon are remained same as those of normal individuals, and another set of 4 probes are designed in a way that each probe has A, G, T, or C at the position of third nucleotide of the said interrogated codon and rest 2 nucleotides of the codon are remained same as those of normal individuals, finally to give 12 probes for interrogated mutated codon.

3. A process for preparing DNA chip which comprises a step of spotting the probe prepared by the process of claim 1 onto aldehyde-coated solid surface to immobilize the probe on the solid surface.

4. The process for preparing DNA chip of claim 3, wherein the immobilization is performed by a binding reaction of amine group in probe and aldehyde coated on solid surface

5. The process for preparing DNA chip of claim 4, wherein the binding reaction is performed under a condition of 70 to 90% humidity for 4 to 8 hours.

6. The process for preparing DNA chip of claim 3, wherein the solid material is a glass plate.

7. A DNA chip prepared by the process of claim 3.

8. A method for detecting genetic mutations using the DNA chip of claim 7 which comprises the steps of:

(i) performing PCR using DNA to be interrogated and primers labeled with fluorescent material to obtain sample DNA labelled with fluorescent material;

(ii) binding the sample DNA to the DNA chip at 10 to 37℃ for 3 to 13 hours, followed by washing the DNA chip; and,

(iii) measuring fluorescent signal remained on the washed DNA chip.

9. The method for detecting mutations using the DNA chip of claim 8, wherein the binding of sample DNA to DNA chip is carried out under a condition of 3 to 10X binding buffer(SSPE: 0.15M NaCl, 10mM $NaH_2PO_4 \cdot H_2O$, 1mM EDTA, pH 7.4).

10. The method for detecting mutations using the DNA chip of claim 8, wherein the the DNA chip is washed with first washing solution(0.45M NaCl, 30mM $NaH_2PO_4 \cdot H_2O$, 3mM EDTA, pH 7.4) for 5min and second washing solution(0.3M NaCl, 20mM $NaH_2PO_4 \cdot H_2O$, 2mM EDTA, pH 7.4) for 5min in a sequential order.